<110 Ni et al.

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<130> PT001P2

<140> Unassigned
<141> 2001-07-26

<150> PCT/US01/02484
<151> 2001-01-26

<150> 60/178,769
<151> 2000-01-28

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<151> 2000-02-29

<160> 17

<170> PatentIn Ver. 2.0

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tcaaacaact tatttttttc cccatgagca tatcatcagc cttggccatg gttttcatgg       180
gggcaaaggg aaacactgca gctcagatgt ctcaggcact ttgtttagt  aaaatcggag       240
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Cys Ala Pro Ile Tyr Cys Val Ser Pro Ala Asn Ala Pro Ser Ala Tyr
            35                  40                  45

Pro Arg Pro Ser Ser Thr Lys Ser Thr Pro Ala Ser Gln Val Tyr Ser
        50                  55                  60

Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val Leu Glu
65                  70                  75                  80

Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val Ser Thr Ser
                85                  90                  95

Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr Lys Thr Gln Ile
                100                 105                 110
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Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr Pro Glu Ser Ala Ile
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His Gln Gly Phe Gln His Leu Val His Ser Leu Thr Val Pro Ser Lys
    130   135   140

Asp Leu Thr Leu Lys Met Gly Ser Ala Leu Phe Val Lys Lys Glu Leu
145   150   155   160

Gln Leu Gln Ala Asn Phe Leu Gly Asn Val Lys Arg Leu Tyr Glu Ala
          165   170   175

Glu Val Phe Ser Thr Asp Phe Ser Asn Pro Ser Ile Ala Gln Ala Arg
          180   185   190

Ile Asn Ser His Val Lys Lys Lys Thr Gln Gly Lys Val Val Asp Ile
          195   200   205

Ile Gln Gly Leu Asp Leu Leu Thr Ala Met Val Leu Val Asn His Ile
    210   215   220

Phe Phe Lys Ala Lys Trp Glu Lys Pro Phe His Pro Glu Tyr Thr Arg
225   230   235   240

Lys Asn Phe Pro Phe Leu Val Gly Glu Gln Val Thr Val His Val Pro
          245   250   255

Met Met His Gln Lys Glu Gln Phe Ala Phe Gly Val Asp Thr Glu Leu
          260   265   270

Asn Cys Phe Val Leu Gln Met Asp Tyr Lys Gly Asp Ala Val Ala Phe
          275   280   285

Phe Val Leu Pro Ser Lys Gly Lys Met Arg Gln Leu Glu Gln Ala Leu
    290   295   300

Ser Ala Arg Thr Leu Arg Lys Trp Ser His Ser Leu Gln Lys Arg Trp
305   310   315   320

Ile Glu Val Phe Ile Pro Arg Phe Ser Ile Ser Ala Ser Tyr Asn Leu
          325   330   335

Glu Thr Ile Leu Pro Lys Met Gly Ile Gln Asn Val Phe Asp Lys Asn
          340   345   350

Ala Asp Phe Ser Gly Ile Ala Lys Arg Asp Ser Leu Gln Val Ser Lys
          355   360   365

Ala Thr His Lys Ala Val Leu Asp Val Ser Glu Glu Gly Thr Glu Ala
          370   375   380

Thr Ala Ala Thr Thr Thr Lys Phe Ile Val Arg Ser Lys Asp Gly Pro
385   390   395   400

Ser Tyr Phe Thr Val Ser Phe Asn Arg Thr Phe Leu Met Met Ile Thr
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Thr Lys Ser
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            20   25   30

Ala Phe Ile His Lys Asp Phe Asp Val Lys Glu Thr Phe Phe Asn Leu
        35   40   45

Ser Lys Arg Tyr Phe Asp Thr Glu Cys Val Pro Met Asn Phe Arg Asn
    50   55   60

Ala Ser Gln Ala Lys Arg Leu Met Asn His Tyr Ile Asn Lys Glu Thr
65   70   75   80

Arg Gly Lys Ile Pro Lys Leu Phe Asp Glu Ile Asn Pro Glu Thr Lys
                85   90   95

Leu Ile Leu Val Asp Tyr Ile Leu Phe Lys Gly Lys Trp Leu Thr Pro
            100   105   110

Phe Asp Pro Val Phe Thr Glu Val Asp Thr Phe His Leu Asp Lys Tyr
        115   120   125

Lys Thr Ile Lys Val Pro Met Met Tyr Ser Ala Gly Lys Phe Ala Ser
    130   135   140

Thr Phe Asp Lys Asn Phe Arg Cys His Val Leu Lys Leu Pro Tyr Gln
145   150   155   160

Gly Asn Ala Thr Met Leu Val Val Leu Met Glu Lys Met Gly Asp His
            165   170   175

Leu Ala Leu Glu Asp Tyr Leu Thr Thr Asp Leu Val Glu Thr Trp Leu
            180   185   190

Arg Asn Met Lys Thr Arg Asn Met Glu Val Phe Phe Pro Lys Phe Lys
        195   200   205

Leu Asp Gln Lys Tyr Glu Met His Glu Leu Leu Arg Gln Met Gly Ile
    210   215   220

Arg Arg Ile Phe Ser Pro Phe Ala Asp Leu Ser Glu Leu Ser Ala Thr
225   230   235   240

Gly Arg Asn Leu Gln Val Ser Arg Val Leu Gln Arg Thr Val Ile Glu
                245   250   255

Val Asp Glu Arg Gly Thr Glu Ala Val Ala Gly Ile Leu Ser Glu Ile
            260   265   270

Thr Ala Tyr Ser Met Pro Pro Val Ile Lys Val Asp Arg Pro Phe His
        275   280   285

Phe Met Ile Tyr Glu Glu Thr Ser Gly Met Leu Leu Phe Leu Gly Arg
    290   295   300

Val Val Asn Pro Thr Leu Leu
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<213> Homo sapiens

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<223> Xaa equals any of the naturally occurring L-amino acids

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His Gly Cys Ser Ile Arg Ser Lys Trp His Ile Cys Ile Lys Pro Phe
            20   25   30

Glu Lys Ala Arg Gly Lys Gln Leu Lys Gln Leu Ile Phe Phe Pro Met
        35   40   45

Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala Lys Gly Asn
    50   55   60

Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys Ile Gly Gly
65   70   75   80

Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu Val Ala Ile
            85   90   95

Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly Leu Phe
            100   105   110

Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser Cys Gly
        115   120   125

Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val Asn Asp Thr
    130   135   140

Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp Lys Thr Lys
145   150   155   160

Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu Glu Pro Gly

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                    165                    170                    175
Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln Pro Leu
        180                185                190

Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro His Gly
        195                200                205

Met Trp Xaa Pro Pro Ser Leu
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Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Pro Xaa
            20                25                30

Xaa Met Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala Lys
            35                40                45

Gly Asn Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys Ile
    50                55                60

Gly Gly Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu Val
65                70                75                80

Ala Ile Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly
                85                90                95

Leu Phe Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser
            100                105                110

Cys Gly Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val Asn
            115                120                125

Asp Thr Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp Lys
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      130                        135                        140
Thr Lys Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu Glu
145                    150                  155                  160

Pro Gly Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln
                  165                  170                  175

Pro Leu Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro
              180                  185                  190

His Gly Met Trp Xaa Pro Pro Ser Leu
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<213> Homo sapiens

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<220>
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    1               5                  10                  15

Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Pro Xaa
            20                  25                  30

Xaa Met Ser Ile Ser Ser Ala Leu Ala
            35                  40
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<213> Homo sapiens

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    1               5                  10                  15

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                20                  25                  30

Gly Phe Gln Ser Leu Leu Val
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<210> 11
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<213> Homo sapiens

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Ala Ile Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly
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Leu Phe Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser
            20   25   30

Cys Gly Lys Phe Tyr Gln Ala Thr Ile Lys
        35   40

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<400> 12
Gln Leu Asp Phe Val Asn Asp Thr Glu Lys Ser Thr Thr Arg Val Asn
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Ser Trp Val Ala Asp Lys Thr Lys Ala Trp Lys Ile Ile Gln Thr Ser
            20   25   30

Leu Ser His Leu Glu Glu
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<210> 13
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Pro Leu Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro
            20   25   30

His Gly Met Trp Xaa Pro Pro Ser Leu
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 1               5                  10                  15

Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Pro Met
            20                  25                  30

Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala Lys Gly Asn
        35                  40                  45

Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys Ile Gly Gly
    50                  55                  60

Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu Val Ala Ile
65                  70                  75                  80

Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly Leu Phe
                85                  90                  95

Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser Cys Gly
            100                 105                 110

Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val Asn Asp Thr
        115                 120                 125

Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp Lys Thr Lys
    130                 135                 140

Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu Glu Pro Gly
145                 150                 155                 160
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Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln Pro Leu
           165   170   175

Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro His Gly
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Met Trp Xaa Pro Pro Ser Leu
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ttggccatgg tttccatgggg ggcaaaggga aacactgcag ctcagatgtc tcaggcactt    180
tgttttagta aaatcggagg tgaagatgga gatattcatc gaggttttca gtcacttctt     240
gttgcaatta acagaactga cactgaatat gtgcttagaa ctgccaacgg gctctttgga     300
gaaaagtctt atgatttcct cacaggtttt acagattcct gtggcaaatt ctaccaagca     360
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Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Xaa Xaa
            20                  25                  30

Xaa Pro Met Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala
         35                  40                  45

Lys Gly Asn Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys
      50                  55                  60
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Ile Gly Gly Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu
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Val Ala Ile Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn
                85   90   95

Gly Leu Phe Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp
            100   105   110

Ser Cys Gly Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val
            115   120   125

Asn Asp Thr Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp
        130   135   140

Lys Thr Lys Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu
145   150   155   160

Glu Pro Gly Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser
            165   170   175

Gln Pro Leu Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr
            180   185   190

Pro His Gly Met Trp Xaa Pro Pro Ser Leu
            195   200